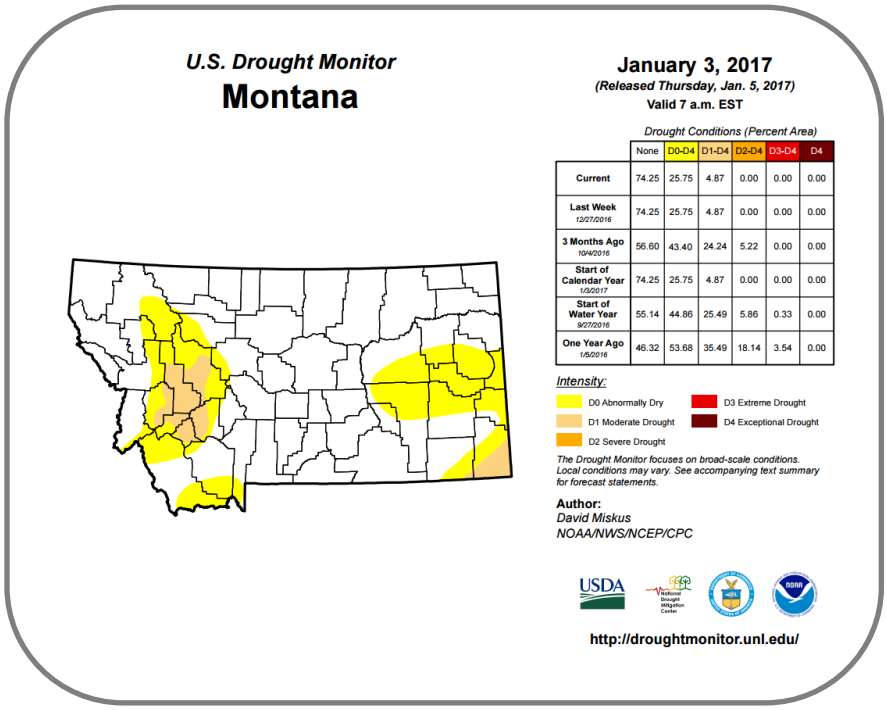
Montana — *Current Drought Conditions*



The U.S. Drought Monitor, is a weekly map of drought conditions produced jointly by the National Oceanic and Atmospheric Administration, the U.S. Department of Agriculture, and the National Drought Mitigation Center (NDMC) at the University of Nebraska-Lincoln. The U.S. Drought Monitor website is hosted and maintained by the NDMC. http://droughtmonitor.unl.edu

Highlights for the State

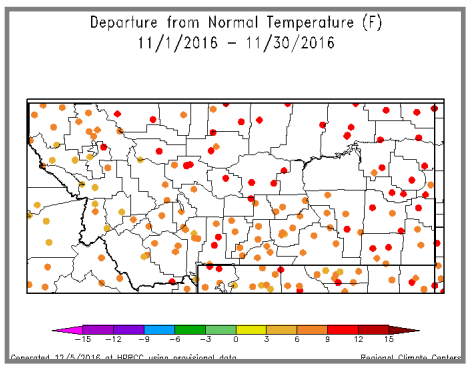
December provided significant snows after a record warm November. While valley snow accumulations ranged between 4-12 inches, the high elevation snowpack only started to reach average snow depth by the end of the month. Similarly, the Snow Water Equivalent (SWE) levels were almost all below 50% of average at the beginning of December, but by the end of the month were reaching near normal levels. Lower SWE levels were recorded at SNOTEL sites in the Little Belts, the Dear Lodge Mountains, and the Sapphire, Swan and Lewis Ranges. With January, February, and March still to come a normal winter snowpack and SWE accumulation are anticipated. The US Drought Monitor shows improved conditions only in the Southeast corner. This reflects that Montana's snowpack essentially arrived in one month. Likely improvement is anticipated in the months to come, but long-term trends should not be overlooked with short-term weather changes.

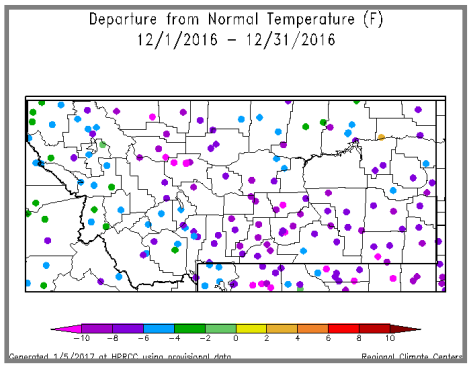
Temperatures for the majority of the state were -2 to - 10 ° F below normal, with Hot Springs tying its record coldest day ever on December 18th with -31° F. One exception to this trend was seen in the Northeast corner of the state where temperatures were 2 - 4 ° F higher than normal in Roosevelt and Daniels counties.

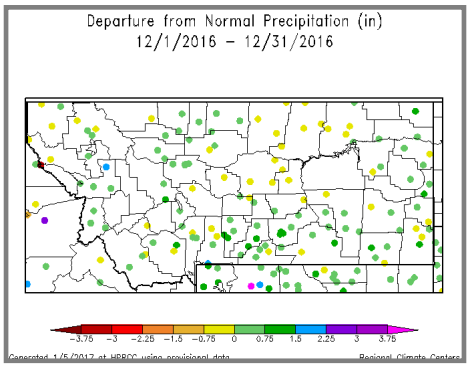
As a reminder, Producers eligible are able to apply for Livestock Forage Disaster loans (LFPs) until Jan. 30, 2017 (Read more here: https://www.fsa.usda.gov/Assets/USDA-FSA-Public/usdafiles/State-Offices/Montana/newsletters/3000201612.pdf)

Montana — *Climate Overview for Last 60 Days*

Temperature and Precipitation Anomalies







Temperatures over the 30-day period from December 1 to December 31 contrasted starkly with the preceding month of November. While in November temperatures across Montana were within 6-12°F of normal, in December temperatures, in general, were between –4 and greater than –10 ° F below normal.

Precipitation across the state was within normal range, with some areas showing just below normal precipitation, particularly in the Northcentral part of the state. December 2016 was 33rd wettest, with the wettest December occurring in 1917 and the driest in 1930.

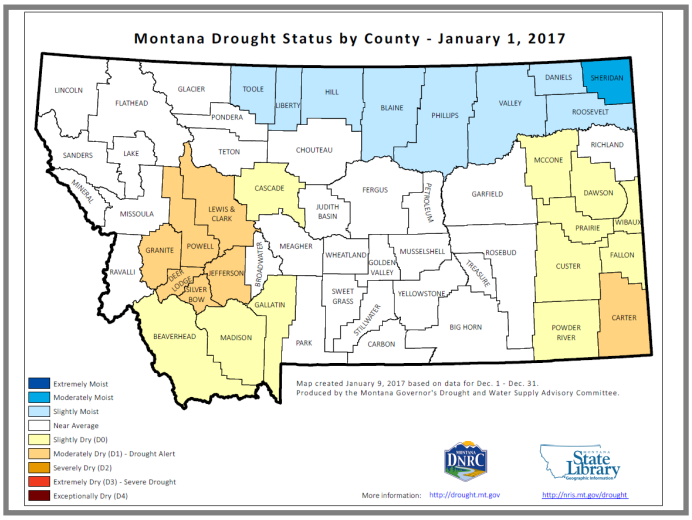
SNOTEL sites in the Muselshell Watershed were showing a 60% below normal SWE as of January 1, 2017. Learn more about all of Montana river basins with SNOTEL sites by creating a report at the following site: https://wcc.sc.egov.usda.gov/reports/SelectUpdateReport.html

Contact: Ada Montague
(amontague@mt.gov)

Montana — *Drought Indicators*

The Montana Drought Status by County is a monthly assessment tool used to monitor the moisture at a county level for the state. Temperature, precipitation, snowpack, reservoirs status, surface water gages, groundwater, crop reports, and field reports are compiled to create this map. To see a historical record go here: https://mslservices.mt.gov/Geographic_Information/Maps/drought/

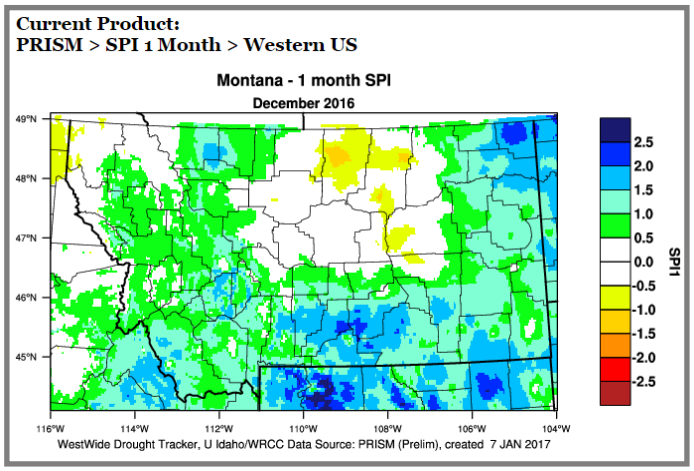
Do you have impacts to report? We need your on-the-ground reports and you can send them to amontague@mt.gov



Water Resources

Reservoirs statewide are normal to slightly below normal, but it is still early in the winter months when most moisture accumulates for the state. The Bureau of Reclamation reports that reservoirs are currently being kept at end of the fall levels. State Projects reported Martinsdale reservoir is at 63%, but all other reservoirs are near or above average.

The map below shows the Standard Precipitation Index (SPI) and gives an indication of where areas were unusually wet or dry for the month of December 2016.



Montana — *Short– and Long-term Outlooks*

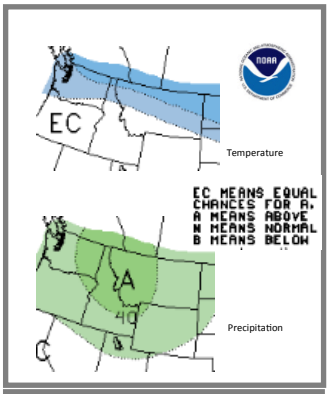
Weather and Climate Outlooks

For the next month there is a 60% chance of below average temperatures and a 40% chance of above average precipitation for the western two thirds of the state.

Looking further out, the Jan-Mar period holds a 40% chance of below-normal temperature for the northern part of the state and a 33% chance for below-normal temperatures for the central part of the state. The southern third shows equal chances of above and below normal temperatures. As for precipitation, the entire state is likely to experience a 33% chance of elevated precipitation, with the western third likely to see a 40% chance of elevated precipitation.

Although there is less certainty when looking at predictions beyond the next three months, the pattern is expected to shift to equal chances for above, normal or below temperature and precipitation for the entire state.

Drought conditions are expected to improve, but should remain closely monitored in 2017 to ensure the lingering effects of the last two years do not persist.



Need a Forecast?

Visit your local National Weather Service Weather Forecast Office for the most up-to-date forecast at: http://www.weather.gov

Stay Tuned and In Touch

The next Montana Drought Impacts and Outlook Summary will be released around February 9th. If you need information in the meantime, please reach out to any of the partners listed to the right or contact Ada Montague directly at amontague@mt.gov.

Read the NOAA National Drought Overview at: https://www.ncdc.noaa.gov/sotc/drought/201611#detailed-discussion

Heard Around the State

NOAA National Centers for Environmental Information recently released State Climate Summaries. The summary for Montana can be found here: https://statesummaries.ncics.org/mt

Ice jams are a frequent winter hazard in Montana, particularly on the Yellowstone River. Carbon County recently created an Ice Jam Interactive Map. For general information on ice jams, check out this info from NOAA: http://www.wrh.noaa.gov/tfx/icejam/

Partners

Montana State Climate Office
www.climate.umt.edu
National Weather Service
Great Falls Weather Forecast Office
www.wrh.noaa.gov/tfx/
Missoula Weather Forecast Office
www.wrh.noaa.gov/mso/
Billings Weather Forecast Office
www.wrh.noaa.gov/byz/
Natural Resource Conservation Service, Snow Survey and Water Supply Forecasting
www.nrcs.usda.gov/wps/portal/nrcs/main/mt/snow/
Montana Bureau of Mines and Geology
data.mbmg.mtech.edu/mapper/
Montana State Library
mslservices.mt.gov
United States Geologic Survey
http://wy-mt.water.usgs.gov/
Bureau of Reclamation, AGRImet
www.usbr.gov/pn/agrimet/h2ouse.html
National Agricultural Statistics Service
www.nass.usda.gov/Statistics_by_State/Montana/

Contact: Ada Montague
(amontague@mt.gov)